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Measuring Humaneness: Can It Be Done, and What Does It Mean If It Can?

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ABSTRACT: Differences over what constitutes humaneness in the control of wildlife have traditionally presented a roadblock to understanding, not to mention agreement, between animal welfare and wildlife damage management professionals. Complaints that a proposed action or given program is not humane can refer to everything from specific techniques to broader administrative justifications. A number of concepts have been used to describe welfare standards and measurements, and different assessment metrics have been developed in attempts to bring objectivity to what might prove, in the end, to be an intractably subjective domain. Some of the most widely used and serviceable of the concepts intended to operationalize what humaneness is are described and reviewed here. The need for a more accepted and agreeable framework for humaneness is discussed, and designating "humane" as a keyword is proposed as one means by which that framework can better realized.

KEY WORDS: animal protection, animal welfare, humane, humaneness, keyword, welfare assessment, welfare criteria

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INTRODUCTION

Although the term "humane" is widely used in both lay and professional contexts to discuss animal welfare concerns, it remains relatively ambiguous and difficult to apply within animal damage management. To some, "humane" is simply a subjective and unhelpful term that largely applies to the feelings individuals express about the treatment of animals. For others it is associated with measurable qualities that can provide an empirical foundation to improve the welfare of individuals and even populations. The term has a long and evolving history of use that undoubtedly contributes to the sense of ambiguity some see in it today. Here we examine the term "humane," discuss its origins, and explore its relationship to the science of animal welfare, before moving on to consider its connection to the broader scope of contemporary animal protection. We argue that an animal protection perspective transcends the boundary at which animal welfare concerns typically end. As a result, what is humane in animal protection can relate to the operational principles that guide programs involving animals as much as the direct impacts to animals themselves. We argue for the significance of humane as a foundational principle for animal damage management, value as a keyword, and as a relevant social construct in this field.

It is particularly important that we consider humaneness within the realm of animal management. Although standards for humane treatment have been widely codified and enacted in law, there remain significant inequalities in the treatment of different types and groups of animals, with so-called "pest" or "nuisance" wildlife often excluded from the welfare standards applied to pets, captive animals, or domestic animals used in food production (Littin et al. 2004). Some types of wildlife, such as commensal rodents, are virtually denied consideration when it comes to humane disposition (but see Mason and Littin 2003 for an exception). Whatever else it means to people, humaneness does not exist as a standard or code of practice that is applied uniformly across species or contexts.

A BRIEF HISTORY OF USE

The term "humane" came into use around 1500 and for a long time it was simply the synonym for all things "human." John Locke's (1690) *Essay Concerning Humane Understanding* would be quite confusing to modern readers if not retitled and presented as an essay concerning *human* understanding, but for Locke and his contemporaries that was its meaning all along. By the mid-17th century the term was being used to describe a sort of idealized personality type, "the man of feeling." It was the Cambridge Platonists and Latitudinarians who forged the concept of a "humane person," someone who was endowed with innate virtue and whose actions toward others exemplified deep religious principle and faith. This was their answer to Thomas Hobbes' view that selfishness was the basic motivation of human behavior; they argued instead that tender benevolence toward others and responsiveness to their suffering were the most highly cherished of qualities. Our contemporary lexical definition still captures this sentiment, defining humane as "marked by compassion, sympathy or consideration humans or animals" (Anon. 2014).

By the end of the 18th century the meaning of "humane" had been extended to a range of charitable purposes and entities, such as those providing rescue and relief for victims of drowning and other misfortune; giving aid to people immersed in poverty; promoting the abolition of slavery; and providing for the care and treatment of the insane. In 1770 the Philadelphia Humane Society was founded, solely with a purpose of aiding the victims of drowning. The start of the modern humane movement in the United States can be traced to the efforts of Henry Bergh, who founded the American Society of the Prevention of Cruelty to Animals in 1866. By the end of the 19th century the term "humane" had firmly attached itself to causes related to animals, and quite often, to children. Today, there are tens of thousands of humane societies globally, including more than 3,500 brick-and-mortar shelters in the United States handling over 4 million wild and domestic animals each

year (A. Rowan, Chief International/Science Officer, Humane Society International, pers. comm.).

As a result, the term "humane" has come to be widely associated with those agencies and their missions, which historically placed far greater emphasis on companion animals and other domestics than on wildlife. It is important to recall that while 19th and early 20th century humane advocates had a general concern for wildlife, it was not a significant focus of their work or thought until well into the post-World War II period. We are only beginning to sort out what it means to be "humane" with respect to our relationship with wild animals.

HUMANE AS KEYWORD

Humane and humaneness are not easy terms to deal with if one is looking for simple, universally accepted descriptors. Still, these concepts are an integral part of the scientific as well as ethical discourse surrounding human-animal interactions, and are widely used and consequential in areas involving animals and society. They are concepts that need to be clarified and better understood, and the discourse surrounding them broadened. One way to view their utility is as keywords, in the sense intended by the cultural critic Raymond Williams. To Williams (1976), keywords are socially prominent terms that carry a cluster of interlocking yet sometimes contradictory contemporary meanings, while serving as building blocks of cultural understanding. Keywords are the currency and the terms used to describe important elements of our lives over whose definitions we may argue, but whose social relevance is nonetheless never in question. If we regard language as causative (i.e., expressing active meanings and values), these are words capable of exerting a formative social force (Patterson 2007).

USE AND MISUSE OF THE TERM

In contemporary use, humane can refer either to the impact an action has on another or how a human observer feels about that action's effect on the individual. This sort of dual meaning is widely referred to in animal welfare (e.g., Duncan and Fraser 1997, Kirkwood 2013), often without any reference to the concept of humaneness itself. There, the concerns may revolve around consideration of welfare states without allusion to whether particular actions or someone's perceptions of them are humane or not. Regardless, the subjective context in which humaneness as a concept is often embedded does not disqualify the usefulness of the term. In some cases, one might argue it simply creates another variable that can or must be addressed. In others, it sharpens the focus on an existing concern or perspective. And finally, it may in certain instances take over the entire frame of reference, transforming our overall view of a particular problem, situation or dilemma.

A certain basic clarity about what is meant by 'humane' is important, of course, given its potential to be misunderstood and misused. For example, many of the businesses that engage in "nuisance" wildlife control will often (and perhaps typically) call the control work they do humane, even when it involves routinely killing animals who might otherwise be spared. Sometimes trapping and killing is unnecessary, as when a wild animal is disturbing accessible trash left out at a curb at night, and that problem could be solved by simply not placing anything outside until the morning of collection. The company contacted about this "problem" stands to earn nothing from dispensing good advice as opposed to collecting several hundred dollars to trap and remove the offending animal, as well as any others attracted to the trap and caught. In many jurisdictions, such an animal cannot be relocated and must be killed if not released on site. The company argues that it practices "humane" wildlife control because it uses acceptable euthanasia or killing techniques to dispatch the animal. Of course, others would argue that this practice is not humane at all because the killing itself was unnecessary and did not actually address the easily resolvable cause of the problem. Then too, there are a range of contexts that might raise questions about how animals are treated and the ethics surrounding our decisions, such as the course of action to take when animals are using a house to den and give birth. The ethical issues raised by these various scenarios must begin to come into our discussions of the way in which business is conducted and the role of public agencies in governing or regulating such activities and approaches (Griffin et al. 2008).

As another example, we might take the case of animal protection interests, strong critics of common business practices within wildlife nuisance control, who lobby for the use of 'humane' traps if control of some kind must occur. They typically would mean or understand this control to involve the use of cage or box-type traps that capture animals alive. But often those 'humane' traps lead to severe injury or even death, as animals captured experience stress and distress, physical harm through injuries such as broken canine teeth, and even agonal death when left unattended in environmental extremes. So, one could not simply designate a practice as 'humane' without further interrogation or scrutiny, regardless of its champions.

Clearly, as the prior example demonstrates, the idea of humane and humaneness can be relative as well as subjective. This leaves us with an important word with less than desirable vagueness surrounding it, and, on top of that, a capacity to be misleading in the important dialogues we should have about how animals are being treated. The solution to this problem might lie in considering and adopting terms and concepts from the science of animal welfare itself.

ANIMAL WELFARE

Animal welfare science has been a recognized discipline for more than 40 years, first originating from investigations into the treatment of research and farm animals (Broom 1986, Rollin 2006). Underlying all efforts to address the field is the now almost universally accepted postulate recognizing that animals are sentient beings capable of suffering in ways that can usually be empirically identified, and that reducing or eliminating their suffering is an important concern, at least for most people. As a nascent discipline, animal welfare suffers from a lack of strong theory, focused research agendas, well-defined sub-disciplinary components, and other

properties found in older fields. Still, the theoretical and empirical concepts associated with farm and research animal welfare are far better developed than those we apply to animals considered to be "pests," notwithstanding efforts to bring this latter area of concern into better focus (e.g., Fisher and Marks 1996, Littin and Mellor 2005).

One oft-used definition of welfare describes it as the state of an individual as it attempts to cope with its environment (Broom 1986, 1993). Welfare state can be demonstrated by "indicators" that either show that an individual has failed to cope or demonstrate the amount of effort he or she has to make in attempting to cope (Broom 1988). The idea that individuals will work toward a goal (e.g., to have access to one type of substrate as opposed to another) allows welfare preferences to be tested and brings behavioral criteria into play for indicating what animals 'want' (Dawkins 2004). Other indicators of welfare can be physiological or biochemical, or include factors such as pathologies, immunosuppression, reduced fecundity, and lowered survival of offspring, among others (Mench 1993, Scott et al. 2003, Webster et al. 2004). It is widely accepted that no single measure is adequate to characterize what we mean by "welfare" in animals (Hewson 2003a, Kirkwood 2013, Dawkins 2004), and that considerable ambiguity exists in the measures sometimes used. They may not always co-vary, they can often be difficult to interpret, and they may differ from one individual or situation to another (Mason and Mendl 1993).

The understanding of specific biological indicators and how they affect or influence welfare and help us cognize poor welfare states is now being complemented by increasingly rigorous efforts to measure and evaluate welfare on other scales as well. Much attention has been given of late to positive states of well-being and how they might be both qualified and quantified (Green and Mellor 2011). Quality of Life concepts seeking ways to improve the conditions experienced by animals have most directly found application in farm and experimental research contexts but will undoubtedly be extended to other contexts as well (Scott et al. 2003).

While animal welfare science is not yet rich in theory, some of its constructs do help to advance practical approaches to evaluating welfare under real-world conditions. Notable among these has been the idea of the 5 freedoms, now more commonly referred to as the 5 domains (Mellor and Reid 1994, Sharp and Saunders 2008). These are: water deprivation, food deprivation, malnutrition; environmental challenge; disease, injury, functional impairment; behavioral or interactive restriction; and anxiety, fear, pain, distress. The first 4 are representative of an animal's physical state and the last represents that animal's mental status. Again, this last classification raises an issue of subjectivity, since much of our effort to account for distress, pain, and suffering in animals must invoke the experiences the animal is having, and this is something we can never be sure about (Dawkins 1990, Duncan 1993). In recent years, the concept of assessment, applied in various robust forms, has helped to clarify some of the ambiguity surrounding welfare criteria.

WELFARE ASSESSMENT

Animal welfare science focuses on several different ways of objectifying welfare status, broadly classified as assessments (Hewson 2003b, Dawkins 2004, Broom 2008). These might range from welfare audits (Mench 2003) to quality assurance (Main et al. 2001) and Quality of Life (Scott et al. 2003, Green and Mellor 2011) methodologies, among others. The welfare assessment that seems most promising and applicable to work with wildlife is the matrix method developed by Sharp and Saunders (2008, 2011). Their approach looks at two matrices designed to deal on the one hand with impacts that are nonlethal, and on the other with situations where lethality is involved. It then ranks different approaches and techniques along a scale of severity (with respect to pain or suffering) opposite an axis establishing duration. Thus, a foot-hold trap that seizes and holds an animal for eight hours might rank a 4 or 5 on a severity scale, where a cage-type trap would rank a 2 or 3 for the same period. But a cage-type trap in which the animal is held for 24 hours, or is held in extremes of heat or cold, would also achieve higher scores, while a foot-hold that caused major tissue damage or broke a limb would also go up on a severity scale.

This assessment scheme works on an *a priori* basis – it establishes methodologies and target levels prior to starting a project in the field and ideally allows the most humane approach to be adopted. Sharp and Saunders (2008, 2011) use humaneness as the primary criteria that the welfare assessment establishes, relying on both empirical information (e.g., published data on tissue injury associated with different capture devices) as well as expert opinion, which is increasingly being used in animal welfare as an important means of comparing the consequences of different actions on animal welfare and coming to reasoned consensus about them (e.g., Webster et al. 2004, Sharp and Saunders 2011).

FROM ANIMAL WELFARE TO ANIMAL PROTECTION

The concept of humaneness can probably only be explored in animal welfare up to a point, since welfare professionals would primarily, if not exclusively, be interested in an animal's physical and mental state and little beyond that. Broom (1986), for example, points out that welfare concerns usually stop at a point where consciousness is irrecoverably lost and an animal can no longer experience pain or distress. Concerns from an animal protection perspective, however, might extend beyond the point where the animal no longer is capable of feeling, to questioning whether and why that condition was justifiable in the first place. While not a hard and fast distinction, animal protection interests tend to look at both the rationale as well as the means by which human decisions and actions affect animals and engage such concerns, perhaps more widely via policy discussions and networks.

This does not mean that concepts in animal welfare cannot be applied with broad strokes. Porter (1992) addressed the issue of magnitude of harm in research animals by referring to both the number of animals that might be harmed by a particular procedure as well as

asking about the duration of that harm. These are concepts that Kirkwood et al. (1994) applied to wild animals, with additional factors accounting for the cause and nature of the harm as well as the capacity of the animal to suffer. These approaches allow investigators to calculate an overall measure of impact that melds individual-level effects with those involving groups or populations, something that seems particularly desirable in wildlife damage management. Littin et al. (2004) refer to the "total quantum" of welfare compromise as a way of characterizing such concerns along a broad spectrum.

This in turn can extend to various operational principles that deserve to be enumerated and further explored. A number of scholars have already proposed such schemas for animal damage management programs (Braysher et al. 1996, Marks 1999, Mellor and Littin 2004, Littin et al. 2004, Hadidian 2012). In general, these are organized around principles such as justification, benefit-cost evaluation, humaneness, and the evaluation of results. The idea behind these frameworks is simple enough: programs that have an impact on wild animals should be well- justified, minimize harm and suffering, and strive to deal with the cause and not just the symptoms of the problems at issue.

The further concerns of animal protection interests also typically extend into areas where indirect and environmental impacts come into play. Protectionists would address impacts to the non-target victims of poisons or traps, as might animal welfare concerns, but the former would also oppose as inhumane the killing of wolves in wilderness areas to enhance (perhaps) the growth of elk herds for hunting by recreational sportsmen. The argument that such programs are inhumane applies more to a debate over justification and benefits than the question of how wolves are actually killed in the scenario under consideration.

Such concerns point directly to the need for Standards of Practice (SOPs) and Best Practices evaluations. These would need to address not simply the means by which control of wildlife as individuals or as populations (and even species) is conducted. They would also take on and account for the degree to which such practices have been or are justified, and the degree to which they have been demonstrated as effective and plausible as well. The application of such standards need not be an all-or-nothing proposition. In some instances, approaches based on the argument from animal welfare may produce interim solutions to many problems through paradigms such as the 3 R's (reduce, refine, replace) as applied within the wildlife damage management arena (e.g., Warburton et al. 2010). It remains to be determined who would develop such standards. The model proposed by Sharp and Saunders (2008, 2011) calls for an open process in which various stakeholders and subject-area experts and specialists work toward consensus solutions. In Australia, the federal government's embrace and ownership of the issue of animal welfare as embodied in a national animal welfare strategy (AAWS 2011) has been productive. An approach via federal ownership or guidance is likely to be necessary if anything similar is to be achieved in the United States.

THE ROLE OF ETHICS

No discussion about humaneness can take place without placing it within the sphere of ethics. Ethical thinking, especially admitting that we have a moral obligation even to 'pest' species (Mellor and Littin 2004), should be a central concern in wildlife damage management (cf. Schmidt 1989). Littin et al. (2004) propose three strategies to guide operational actions in the control of vertebrates: assessing the humaneness of current methods and adopting the most humane that are usable in the current instance; mounting an active effort to improve humaneness of current methods; and following an active research strategy to develop more humane approaches, building on preceding research. Commitments to strategies such as these would go far to improving the relationship between animal damage and animal welfare and protection professionals, not to mention add significantly to our understanding of the practice of animal damage control.

There is an even bigger and broader context to this type of approach. We are now in an era of intensifying bio-politics, the practical application of bioethics as it relates to the status and treatment of all living beings. The fundamental practical, policy, and legislative decisions we take concerning animals of all species, their well-being and protection, and their continued use or non-use, are going to unfold on a dynamic landscape that won't look like the one we've been operating on for so many years. An emerging literature in political philosophy focuses on what governments may owe to animals, and on what political duties might ensue from animal ethics. This discussion represents a shift away from moral theory and goes toward discussion of the relational obligations involving humans and animals. There is more to it than just leaving them alone. Our social and political institutions, practices, and policies will all have to accommodate their presence and take account of their needs and their well-being. So this scholarship challenges us to consider and acknowledge that all of our human institutions must be engaged in working out the implications and the practicalities of right behavior toward animals (Donaldson and Kymlicka 2011, Cochrane 2012, Smith 2012, Garner 2013). One set of authors working in this area suggest that we characterize animals via three categories that would help to determine the nature of the laws and policies and practices that should protect them. It is a kind of group-differentiated approach, in which domestic animals are accorded a kind of adjusted co-citizenship in which their best interest and preferences are taken into account; wild animals are granted a kind of sovereignty in the areas in which they live, enough to sustain their well-being and flourishing; and "liminal" animals (such as mice, pigeons, and insects) would be treated as denizens of the cities and the environments in which they live, the environments they share with us (Donaldson and Kymlicka 2011).

All of these thinkers are trying to come to terms with the important question of whether, how, and which animals, if any, may be considered members of the liberal social contract, the community that we all inhabit together. They all believe that the political morality of

our treatment of animals, the political disposition of animal issues, should come together with our practical work, to design institutions that protect animals as dependent members of our society, the society they too inhabit. And that promises to make of our shared world a more fitting home for both humans and nonhuman animals alike.

CONCLUSION

Stafleu et al. (1996) addressed the problem of defining animal welfare by recognizing three levels at which definition can be addressed: the lexical, the explanatory, and the operational. The lexical or dictionary definition gives the concept its common meaning; the explanatory is intended to serve as "elementary theoretical background" for the phenomena under study; the operational definition sets the "concrete parameters" that allow the concept to be quantified and operationalized. Humane and humaneness are concepts deserving of the same treatment. The role of humaneness in wildlife damage management has only recently begun to be addressed seriously, despite having been first raised as a concern more than two decades ago (Schmidt and Bruner 1981). Our operational definition of humaneness posits that it is an attempt to maximize an animal's welfare state. It is around this premise that we hope and anticipate the flow of discussion in wildlife damage management circles will extend in the years ahead.

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